

**THE
ECONOMIC IMPACT
OF
TOURISM IN ONTARIO
AND REGIONS**



TOURISM RESEARCH SECTION



THE ECONOMIC IMPACT OF TOURISM
IN ONTARIO AND REGIONS
1982

Tourism Research Section
ONTARIO MINISTRY OF TOURISM AND RECREATION

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FOREWARD

The impact of tourism expenditure on the employment, income and tax structure of the province and its regions is indeed significant. Because tourism interrelates with a number of different industries as conventionally defined, its role in the economy is seldom perceived clearly. However, tourism is an important instrument of regional development, providing needed employment to less industrialized areas of the province, and lessening income disparities between the various regions.

The Ontario Ministry of Tourism and Recreation commissioned this study in order to determine the relative and absolute impact of tourism expenditure within Ontario and its regions. A comparable study was last carried out for 1976 expenditures.

The basic model used to generate the economic impact couples an input-output system and a regional macro model. The tourism expenditure input data was derived from surveys carried out by various jurisdictions (see Appendix VIII B). However, the study on Ontario resident expenditure, which comprised the largest portion of total tourism expenditures, was not completed until late 1983 and thus retarded completion of this impact study until 1984.

Both direct, and indirect/induced consumption effects of tourism expenditure were calculated, and these were expressed in terms of gross output, total income, wage and salary income, employment and taxes, by region and sector of original expenditure.

This report was prepared by Econometric Research Limited of Burlington, Ontario, and included input from the Tourism Research Section.

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SUMMARY

Tourism expenditure in Ontario totalled \$6,348 million in 1982. This expenditure by Ontario households, Other Canadians and Foreign Visitors for food, lodging, transportation, amusement and other miscellaneous travel items, generated a substantial amount of income and employment in the province.

More than 361 thousand person-years of employment were associated with these tourism expenditures in 1982, of which 204 thousand were generated directly and 157 thousand were indirectly generated.

A total of \$7.9 billion of income was generated by tourism expenditure in 1982, or about 6 percent of the gross provincial product of Ontario in that year.

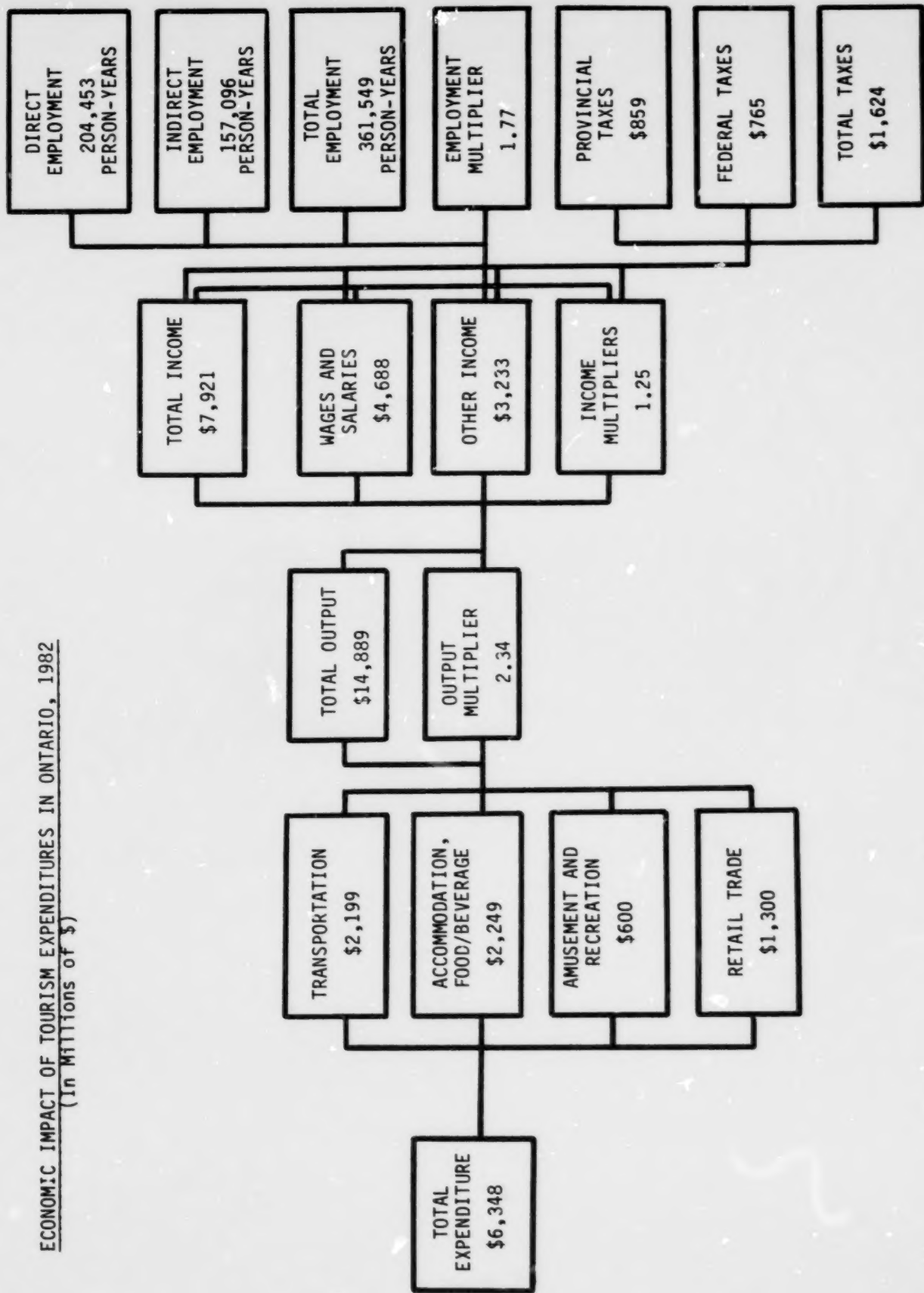
The impact of tourism expenditure is generally diffused throughout the economy. For every dollar of income generated in 1982 in activities directly serving tourism (e.g. accommodation, transportation, and food services), about 25 cents more was generated in indirectly related activities, such as agriculture and construction.

Equally important is the fact that the economic impacts of tourism expenditure are regionally differential. The less developed regions of Ontario tend to benefit more from the employment and income generated by tourism expenditure than would be expected from their population sizes. The considerable local impacts of tourism expenditure allow outlying regions to share in the growth and prosperity of the province in a way that

other industrial expansions generally do not afford.

Finally, substantial amounts of taxes were recovered on the tourism expenditures. Of the tax revenues considered, the provincial government collected \$859 million, and the federal government \$765 million in 1982.

ECONOMIC IMPACT OF TOURISM EXPENDITURES IN ONTARIO, 1982
(In Millions of \$)





PROVINCIAL IMPACT

1.0 - TOURISM AND THE ONTARIO ECONOMY

Tourism has always been a major sector of the Ontario economy. Increases in personal income and leisure time in the 1970s have further enlarged it. Expenditures on tourism services by households, businesses and foreign visitors doubled between 1970 and 1976 and increased about one and a half times between 1976 and 1980. In the early 1980s however, the rate of increase of these expenditures decelerated slightly. Tourism expenditures grew more rapidly than the gross provincial product between 1976 and 1982.¹ Spending for tourism in Ontario totalled \$6,348 million in 1982 or almost 4.8 percent of the gross provincial product (see Table 1).

Despite these indications of its importance, tourism is rarely considered as a major economic activity. This is partially explained by the difficulty in defining it. Tourist activities are diverse; in only a few instances -- notably commercial accommodation and transportation -- are specific industries associated primarily with tourism. Furthermore, despite the fact that tourism represents an important share of the sales of such enterprises as restaurants, service stations, garages and other retail establishments, basic decisions in these businesses are often thought to be responsive to forces other than tourism. As a consequence, the role of tourism in the economy is seldom perceived clearly, and this is especially

¹ The gross provincial product in 1982 was 1.77 higher than its corresponding value in 1976. On the other hand, tourist expenditures in 1982 were 1.92 their value in 1976.

the case for its domestic component.

The direct impact of tourist demand on the allocation of economic resources may be measured by a number of indicators, such as gross output, employment in the industries directly serving tourism, the income of the workers so employed, or the proportion of provincial income generated directly through serving tourist demand. Each of these measures describes a different dimension of the impact of demands on economic resources that could be attributed directly to tourism spending.²

Measures of direct impact, however, identify only part of the effect of tourism spending on the economy. Every aspect of economic activity is affected through the purchase of goods and services by tourists and by industries directly serving tourists. This can be demonstrated by tracing the impact of these purchases through the economy. For instance, a tourist's food purchases in a restaurant can be traced back through the wholesale, food and related industries to the agricultural producer. Each supplier in turn will create demands on his suppliers, generating further income and employment. The farmer purchases fuel, fertilizer and equipment to meet requirements generated by tourism expenditures, and his purchases in turn give rise to employment and income in those industries supplying him, and so on. But the process does not

² Gross output impacts are displayed in Appendix tables A.1-A.5. Net output impacts which are equivalent to income impacts are preferred to gross output measures since the latter include intermediate inputs and as such represent double counting of some impacts.

stop here. Industries generate income and this is spent by households and businesses on consumption and investment, creating further demands in the economy in response to the original tourism expenditures. The latter effects are often referred to as the induced effects. The direct and total impacts of tourist expenditures on employment, income and taxes in Ontario now follow.

TABLE: 1
ITEMIZED EXPENDITURE IN ONTARIO BY REGION, 1982
TOTAL EXPENDITURE
(MILLIONS OF DOLLARS)

EXPENDITURE	REGION*						TOTAL
	SOUTH- WESTERN ONTARIO	FESTIVAL COUNTRY	GEORGIAN LAKELANDS	METRO TORONTO	CENTRAL ONTARIO	ONTARIO EAST	ONTARIO NORTH
TRANSPORTATION	239.1	378.0	127.2	719.6	161.7	361.3	211.9
RETAIL TRADE	213.3	229.6	94.0	302.1	102.1	202.2	156.3
AMUSEMENT AND RECREATION	84.1	156.4	42.9	145.2	66.0	55.3	50.7
ACCOMMODATION AND FOOD/BEVERAGE	261.4	411.8	224.8	504.1	284.0	301.8	261.1
TOTAL	797.9	1175.8	488.9	1671.0	613.8	920.6	680.0

* SEE MAP, APPENDIX I.

SOURCE: ONTARIO MINISTRY OF TOURISM AND RECREATION



1.1 - EMPLOYMENT

In 1982 over 204 thousand person-years of employment was directly involved in serving tourism. The total of direct, indirect and induced employment generated by tourism was over 361 thousand person-years, or about 9 percent of total employment in the province in 1982³ (see Tables 2 and 3).⁴ Thus for every two direct jobs created in tourism sectors, more than a job and a half were created by industries indirectly related to tourism. To be more precise, the employment multiplier associated with tourism expenditures in Ontario was 1.77 in 1982 (see Table 8).

The largest number of person-years of direct employment (about 102,000) in 1982 was created by expenditures on accommodation and food (see Table 2). Retail trade accounted for about 61 thousand person-years, transportation for about 29 thousand person-years, and amusement and recreation for only about 13 thousand person-years during the same year.

Of industries directly serving tourism in 1982, transportation had the highest employment multiplier with a value of 3.11, followed by amusement and recreation with a multiplier value of 2.21, and retail trade with a value of 1.51. Ironically, the accommodation and food sector generated the lowest multiplier

³ This understates the contribution of tourism as the denominator is measured in jobs which include both part and full-time jobs, whereas the numerator is measured in person-years. Since jobs are often smaller than person-years, the 9 percent is an underestimate of the contribution of tourism to employment in the province.

⁴ Note that components in various tables do not necessarily add to the totals due to rounding.

with 1.48 (see Table 8). This is so because the employment multiplier here is calculated as the ratio of total employment generated to direct employment. However, by measuring the employment impact per dollar spent in a particular sector, we can say that for every \$100,000 of tourism expenditures in each sector, the following number of direct/indirect/induced person-years were generated in total:

<u>Expenditure In</u>	<u>Direct, Indirect/Induced Employment (Person-Years)</u>
Transportation	4.2
Retail Trade	7.0
Amusement and Recreation	4.7
Accommodation and Food	6.7

Seen from this viewpoint, retail trade and accommodation and food generate the highest number of person-years per dollar of expenditure.

Employment income is the basis for calculating the number of person years generated by each expenditure category. As such, no separate discussion of this dimension of impact was felt necessary. However, the magnitude of tourism expenditure impacts in employment income are presented in Tables 9 through 13.

TABLE 2 DIRECT EMPLOYMENT IN ONTARIO BY REGION, 1962
(PERSON-YEARS)
TOTAL EXPENDITURE

EXPENDITURE SECTOR	REGION					TOTAL
	SOUTH- WESTERN ONTARIO	FESTIVAL COUNTRY	GEORGIAN LAKELANDS	METRO TORONTO	CENTRAL ONTARIO	
TRANSPORTATION	3206.	5068.	1705.	9648.	2168.	29481.
RETAIL TRADE	9940.	10699.	4380.	14078.	4758.	60562.
AMUSEMENT AND RECREATION	1791.	3330.	913.	3092.	1405.	12788.
ACCOMMODATION AND FOOD	11811.	18607.	10158.	22778.	12833.	101622.
TOTAL	26748.	37705.	17157.	49596.	21164.	23002. 284453.

TABLE 5
ECONOMIC IMPACT INDICATORS OF TOURIST EXPENDITURES IN ONTARIO, 1942
(person-years)
TOTAL EXPENDITURE ON ACCOMMODATION AND FOOD

SECTOR	REGION						TOTAL
	SOUTH- WESTERN ONTARIO	FESTIVAL COUNTRY	GEORGIAN LAKELANDS	METRO TORONTO	CENTRAL ONTARIO	ONTARIO EAST	ONTARIO NORTH
AGRICULTURE	1657	2246	0	0	0	257	405
MINING	111	52	0	0	0	20	47
FOOD & BEVERAGES	111	52	0	0	0	20	47
TEXTILES & PLASTIC	0	0	0	0	0	0	0
WOMEN'S CLOTHING, ETC.	0	0	0	0	0	0	0
ACCUMULATED & FIXED	0	0	0	0	0	0	0
PRINTING & PUBLISHING	0	0	0	0	0	0	0
PHOTODUPLICATION	0	0	0	0	0	0	0
REPAIRS & MAINTENANCE	0	0	0	0	0	0	0
TRANSPORTATION	0	0	0	0	0	0	0
RECREATION	0	0	0	0	0	0	0
NON-METALS & CHEMICALS	0	0	0	0	0	0	0
NON-METALS & CHEMICALS	0	0	0	0	0	0	0
MANUFACTURING	0	0	0	0	0	0	0
CONSTRUCTION	0	0	0	0	0	0	0
COMMERCE & SERVICES	1520	177	220	167	27	299	272
UTILITIES	1520	177	220	167	27	299	272
RETAIL	1520	177	220	167	27	299	272
WHOLESALE	1520	177	220	167	27	299	272
REPAIRS & MAINTENANCE	1520	177	220	167	27	299	272
ACCUMULATED & FIXED	1520	177	220	167	27	299	272
OTHER SECTORS	1275	147	106	235	174	143	125
TOTAL	2222	2325	3404	3054	1749	1464	15087

TABLE 6
ECONOMIC IMPACT INDICATORS OF TOURIST EXPENDITURES IN CANTABRIA, 1992
EMPLOYMENT IN SECTOR AND REGION
(Person-years)
TOTAL EXPENDITURE ON RECREATION AND AMUSEMENT

SECTOR	SOUTH- WESTERN ONTARIO	FESTIVAL COUNTRY	GEORGIAN BAY ISLANDS	METRO TORONTO	CENTRAL ONTARIO	ONTARIO EAST	ONTARIO NORTH	TOTAL
AGRICULTURE	580	333	0	0	0	17	161	1074
MINING	15	10	0	0	0	13	135	142
FOOD & BEVERAGES	0	0	0	0	0	0	0	0
TEXTILES & PLASTIC	0	0	0	0	0	0	0	0
LEATHERS & CLOTHING, ETC.	0	0	0	0	0	0	0	0
WOOD	0	0	0	0	0	0	0	0
FURNITURE & FIXTURES	0	0	0	0	0	0	0	0
SABLING & ALLIED IND.	0	0	0	0	0	0	0	0
PUBLISHING	0	0	0	0	0	0	0	0
PRINTING & REPROD.	0	0	0	0	0	0	0	0
PRIMA. & REPROD.	0	0	0	0	0	0	0	0
TECHNICAL & INSTRUMENTS	0	0	0	0	0	0	0	0
TRANSPORTATION	0	0	0	0	0	0	0	0
ELECTRICAL & ELECTRONICS	0	0	0	0	0	0	0	0
NON-METALLIC MINERALS	0	0	0	0	0	0	0	0
CHLOR. & CHEM.	0	0	0	0	0	0	0	0
MISC. MANUFACTURING	0	0	0	0	0	0	0	0
OTHER MANUFACTURING	0	0	0	0	0	0	0	0
CONSTRUCTION	0	0	0	0	0	0	0	0
TRANSPORTATION SERVICES	0	0	0	0	0	0	0	0
COMMUNICATIONS	0	0	0	0	0	0	0	0
UTILITIES	0	0	0	0	0	0	0	0
RETAIL TRADE	0	0	0	0	0	0	0	0
WHOLESALE TRADE	0	0	0	0	0	0	0	0
FINANCIAL & REALTY	0	0	0	0	0	0	0	0
ACCOR. & SERVICE	0	0	0	0	0	0	0	0
OTHER SECTORS	0	0	0	0	0	0	0	0
TOTAL	4641	7307	1851	6267	2430	2439	2472	24221

TABLE 8
EMPLOYMENT MULTIPLIERS IN ONTARIO BY REGION, 1982
TOTAL EXPENDITURE

EXPENDITURE SECTOR	REGION							TOTAL
	SOUTH- WESTERN ONTARIO	FESTIVAL COUNTRY	GEORGIAN LAKELANDS	METRO TORONTO	CENTRAL ONTARIO	ONTARIO EAST	ONTARIO NORTH	
TRANSPORTATION	3.99	3.20	2.82	2.42	2.82	2.34	3.66	3.11
RETAIL TRADE	1.71	1.58	1.41	1.42	1.41	1.42	1.58	1.51
AMUSEMENT AND RECREATION	2.59	2.19	2.03	2.03	2.04	2.07	2.66	2.21
ACCOMMODATION AND FOOD	1.89	1.57	1.36	1.36	1.36	1.37	1.55	1.48
TOTAL	2.12	1.88	1.55	1.70	1.56	1.65	1.82	1.77

NOTE: Employment Multiplier = $\frac{\text{Total Employment Impact}}{\text{Direct Employment Impact}}$; where Total Employment Impact includes direct plus indirect plus induced effects.

1.2 - INCOME

The income generated in response to total tourism expenditure in Ontario amounted to \$7.9 billion,⁵ or about 6 percent of the gross provincial product and 7 percent of personal income in Ontario in 1982 (see Table 14). These are slightly lower than the corresponding figures in 1976, but nonetheless still significant and high.

Tourism expenditures in transportation generated the largest amount of income (\$2,768 million), followed by accommodation and food (\$2,609 million), retail trade (\$1,807 million), and the least amount by amusement and recreation (\$749 million) (see Tables 15-18).

The income multiplier associated with total tourism expenditures was 1.25 in 1982 (see Table 19). This is not an exceptionally high income multiplier, but still ranks 13th out of 28 sectoral multipliers and is only a fraction lower than the highest multiplier, the one associated with construction, which stood at 1.58 (see Table 20).

The largest tourism income multiplier by sector of tourism expenditure is associated with retail sales (1.39), followed by transportation (1.26), and then amusement and recreation (1.25). The smallest is the one for accommodation and food (1.16).

⁵ Total employment income amounted to \$4,688 million, or about 59 percent of the total income generated (see Table 9).

TABLE 9
ECONOMIC IMPACT INDICATORS OF TOURIST EXPENDITURES IN ONTARIO, 1982
(EMPLOYMENT INCOME BY SECTOR AND REGION)
(MILLIONS OF DOLLARS)
TOTAL EXPENDITURE

SECTOR	REGION							TOTAL
	SOUTH- WESTERN ONTARIO	FESTIVAL COUNTRY	GEORGIAN LAKELANDS	METRO TORONTO	CENTRAL ONTARIO	ONTARIO EAST	ONTARIO NORTH	
AGRICULTURE	30.66	14.63	0.00	0.00	0.00	0.00	0.00	50.61
MINING	32.44	1.50	0.00	0.00	0.00	0.00	0.00	44.41
FOODS & BEVERAGES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TEXTILES & PLASTIC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LEATHERS, CLOTHING, ETC.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HOUSING	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UTILITIES & FIXED	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TRANSPORTATION	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RETAIL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
REPAIRS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RECREATION	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OTHER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	844.63	892.37	729.25	1,154.54	409.51	645.58	568.25	4,689.09

Table 11
ECONOMIC IMPACT INDICATORS OF TOURIST EXPENDITURES IN ONTARIO, 1982
EMPLOYMENT INCOME BY SECTOR AND REGION
(MILLIONS OF DOLLARS)

TOTAL EXPENDITURE ON ACCOMMODATION AND FOOD

[illegible]

TABLE 1

12

ECONOMIC IMPACT INDICATORS OF TOURIST EXPENDITURES IN ONTARIO, 1982
EMPLOYMENT INCOME BY SECTOR AND REGION
(MILLIONS OF DOLLARS)

TOTAL EXPENDITURE ON RECREATION AND AMUSEMENT

SECTOR	REGION						TOTAL
	SOUTH- WESTERN ONTARIO	FESTIVAL COUNTRY	GEORGIAN LAKELANDS	METRO TORONTO	CENTRAL ONTARIO	ONTARIO EAST	ONTARIO NORTH
AGRICULTURE	2.17	5.00	0.00	0.00	0.00	0.00	5.17
MINING & ORE	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FOOD & BEVERAGES	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TEXTILES & CLOTHING	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LEATHER & FUR	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WOOD	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FURNITURE & FIXTURES	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PAINTS & GLASS	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PRINTING & PUBLISHING	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RECREATION & AMUSEMENT	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TRANSPORT & EQUIPMENT	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TELECOMMUNICATIONS	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NON-METALLIC MINERALS	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OTHER MANUFACTURING	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CONSTRUCTION	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TRANSPORTATION	0.00	0.00	0.00	0.00	0.00	0.00	0.00
COMMERCE & SERVICES	1.12	2.17	1.19	21.17	19.17	1.17	24.17
UTILITIES	1.12	1.17	1.19	21.17	19.17	1.17	24.17
WHOLESALE & RETAIL TRADE	1.12	1.17	1.19	21.17	19.17	1.17	24.17
RECREATION & AMUSEMENT	1.12	1.17	1.19	21.17	19.17	1.17	24.17
FOOD SERVICE	1.12	1.17	1.19	21.17	19.17	1.17	24.17
OTHER SECTORS	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	50.92	43.25	24.29	8.17	27.23	32.23	39.06
							164.92

TABLE 14
ECONOMIC IMPACT INDICATORS OF TOURIST EXPENDITURES IN ONTARIO, 1992
TOTAL INCOME BY SECTOR AND REGION
(MILLIONS OF DOLLARS)
TOTAL EXPENDITURE

SECTOR	REGION						TOTAL
	SOUTH- WESTERN ONTARIO	FESTIVAL COUNTRY	GEORGIAN LAKELANDS	METRO TORONTO	CENTRAL ONTARIO	ONTARIO EAST	ONTARIO NORTH
AGRICULTURE	156.03	35.06	0.00	0.00	0.00	0.00	0.00
MINING	7.47	3.47	0.00	0.00	0.00	0.00	0.00
FOOD & BEVERAGES	6.92	3.70	0.00	0.00	0.00	0.00	0.00
TEXTILES & PLASTICS	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LEATHER	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WARRANTS CLOTHING, ETC.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FOOD	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FURNITURE & FIXTURES	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SALES & REPAIRS	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PRINTING & PUBLISHING	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PRINTERIES	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ALUMINUM	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TRANSPORTATION	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ELECTRICAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TRANSMISSIONS	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ELECTRONICS	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NON-METALS & CHEMICALS	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MANUFACTURING	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OTHER	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CONSTRUCTION	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TRANSPORTATION	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UTILITIES	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RETAIL TRADE	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WHOLESALE TRADE	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RECREATION & AMUSEMENT	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ACCOMMODATION & FOOD SERVICES	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OTHER SECTORS	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	1234.16	1545.14	541.91	1884.91	678.24	1044.92	986.78
							7921.00

TABLE 16
ECONOMIC IMPACT INDICATORS OF TOURIST EXPENDITURES IN ONTARIO, 1962
TOTAL INCOME BY SECTOR AND REGION
(MILLIONS OF DOLLARS)

TOTAL EXPENDITURE ON ACCOMMODATION AND FOOD

SECTOR	REGION						TOTAL
	SOUTH- WESTERN ONTARIO	FESTIVAL COUNTRY	GEORGIAN LAKELANDS	METRO TORONTO	CENTRAL ONTARIO	ONTARIO EAST	
AGRICULTURE	70.24	43.16	0.00	0.00	0.00	7.79	121.64
MINING	3.55	4.85	0.00	0.00	0.00	34.93	43.34
FOOD & BEVERAGES	0.00	0.00	0.00	0.00	0.00	1.23	1.23
RUBBER & PLASTIC	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LEATHER	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TEXTILES, CLOTHING, ETC.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WOOD	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PAPER	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PRINTING & PUBLISHING	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RECREATION	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TRANSPORTATION	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TELECOMMUNICATIONS	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RETAIL TRADE	10.00	0.00	0.00	0.00	0.00	0.00	10.00
WHOLESALE TRADE	10.00	0.00	0.00	0.00	0.00	0.00	10.00
REPAIR & MAINTENANCE	10.00	0.00	0.00	0.00	0.00	0.00	10.00
OTHER SECTORS	15.00	23.00	12.00	29.00	16.00	15.00	130.00
TOTAL	111.33	512.32	224.21	511.70	244.33	347.09	2605.65

TABLE 17
ECONOMIC IMPACT INDICATORS OF TOURIST EXPENDITURES IN ONTARIO, 1982
TOTAL INCOME BY SECTOR AND REGION
(MILLIONS OF DOLLARS)

TOTAL EXPENDITURE ON RECREATION AND AMUSEMENT

SECTOR	REGION						TOTAL
	SOUTH- WESTERN ONTARIO	FESTIVAL COUNTRY	GEORGIAN LAKELANDS	METRO TORONTO	CENTRAL ONTARIO	ONTARIO EAST	
AGRICULTURE	11.17	6.42	0.00	0.00	0.00	0.00	28.65
MINING	0.00	0.00	0.00	0.00	0.00	0.00	10.94
FOOD & BEVERAGES	0.00	0.00	0.00	0.00	0.00	0.00	1.30
TEXTILES & CLOTHING	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LEATHER & PLASTIC	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WIRE, ELECTRIC & EQUIP	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HAIR, COSMETICS & PERFUM	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PRINTING & PUBLISHING	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RECORDING & MUSIC	0.00	0.00	0.00	0.00	0.00	0.00	0.00
REPAIRS & MAINTENANCE	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TRANSPORTATION	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RECREATION & AMUSEMENT	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OTHER SECTORS	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	120.30	191.57	49.00	105.15	75.42	64.93	749.26

TABLE 18
ECONOMIC IMPACT INDICATORS OF TOURIST EXPENDITURES IN ONTARIO, 1992
TOTAL INCOME BY SECTOR AND REGION
(MILLIONS OF DOLLARS)

TOTAL EXPENDITURE ON RETAIL TRADE

SECTOR	REGION						TOTAL
	SOUTH-WESTERN ONTARIO	FESTIVAL COUNTRY	GEORGIAN LAKELANDS	METRO TORONTO	CENTRAL ONTARIO	ONTARIO EAST	
AGRICULTURE	40.00	0.00	0.00	0.00	0.00	0.00	40.00
MINING	40.00	0.00	0.00	0.00	0.00	0.00	40.00
FOOD & BEVERAGES	40.00	0.00	0.00	0.00	0.00	0.00	40.00
TEXTILES & CLOTHING, ETC.	40.00	0.00	0.00	0.00	0.00	0.00	40.00
WOOD	40.00	0.00	0.00	0.00	0.00	0.00	40.00
FURNITURE & FIXTURES	40.00	0.00	0.00	0.00	0.00	0.00	40.00
PAPER & PRINTING	40.00	0.00	0.00	0.00	0.00	0.00	40.00
PRIMARY MANUFACTURING	40.00	0.00	0.00	0.00	0.00	0.00	40.00
OTHER MANUFACTURING	40.00	0.00	0.00	0.00	0.00	0.00	40.00
TRANSPORTATION	40.00	0.00	0.00	0.00	0.00	0.00	40.00
COMMUNICATIONS	40.00	0.00	0.00	0.00	0.00	0.00	40.00
RETAIL TRADE	40.00	0.00	0.00	0.00	0.00	0.00	40.00
WHOLESALE TRADE	40.00	0.00	0.00	0.00	0.00	0.00	40.00
FINANCIAL SERVICES	40.00	0.00	0.00	0.00	0.00	0.00	40.00
GOVERNMENT	40.00	0.00	0.00	0.00	0.00	0.00	40.00
OTHER SERVICES	40.00	0.00	0.00	0.00	0.00	0.00	40.00
TOTAL	350.00	33.33	11.11	129.00	257.97	244.22	1407.13

TABLE 19
INCOME MULTIPLIERS IN ONTARIO BY REGION, 1982
TOTAL EXPENDITURE

EXPENDITURE SECTOR	REGION						TOTAL
	SOUTH- WESTERN ONTARIO	FESTIVAL COUNTRY	GEORGIAN LAKELANDS	METRO TORONTO	CENTRAL ONTARIO	ONTARIO EAST	ONTARIO NORTH
TRANSPORTATION	1.53	1.30	1.15	1.15	1.15	1.15	1.53
RETAIL TRADE	1.60	1.46	1.26	1.26	1.26	1.29	1.56
AMUSEMENT AND RECREATION	1.43	1.22	1.14	1.14	1.14	1.17	1.62
ACCOMMODATION AND FOOD	1.57	1.24	1.02	1.02	1.02	1.03	1.33
TOTAL	1.55	1.31	1.11	1.13	1.10	1.14	1.45

NOTE: $\text{Income Multiplier} = \frac{\text{Total Income Effects}}{\text{Original Tourism Expenditure}}$

TABLE 20: INDUSTRIAL INCOME MULTIPLIERS IN ONTARIO

Industry	Multiplier	Rank
Agriculture	1.346	6
Mining	1.048	21
Food and Beverages	1.181	15
Rubber and Plastic	1.252	12
Leather	1.048	20
Yarns, Clothing, etc.	0.7666	28
Wood	1.070	19
Furniture and Fixture	1.212	14
Paper and Allied Ind.	1.262	10
Printing and Publishing	1.471	2
Primary Metals	1.039	23
Metal Fabricating	1.152	17
Machinery Ind.	0.842	27
Transport Equipment	0.862	26
Electrical Products	1.100	18
Non-metallic Minerals	1.324	7
Chemicals and Chemical Prod.	1.046	22
Miscellaneous Manufacturing	0.937	25
Other Manufacturing	0.989	24
Construction	1.584	1
Transportation	1.259	11
Communication Services	1.265	9
Utilities	1.373	3
Wholesale Trade	1.362	4
Retail Trade	1.352	5
Amusement and Recreation	1.272	7
Accommodation and Food Services	1.160	16
Tourism	1.247	13

Source: Based on Statistics Canada, Interregional Input-Output Tables, 1974.

1.3 - TAXES

There is more than one government that collects taxes in Ontario and there are several taxes collected. Governments also collect revenues from licenses, fees, and other non-tax sources. Indeed it is difficult to account for all the taxes and other revenues collected by the three levels of government. This problem is particularly acute in the case of municipal governments. Our results, however, indicate that the provincial government collected almost \$859 million in taxes from tourism related activities.⁶ This amounts to 10.8 percent of the total income (i.e. \$7,921 million) generated by tourism. Since the provincial government collected 11.6 percent of gross provincial product in 1982 from all sources of taxes and revenues,⁷ it appears as if less is collected from tourism related activities than from other activities. The largest tax related to tourism, about \$323 million, was collected from personal income. Retail sales taxes from tourism accounted for almost \$188 million, gasoline and motor vehicle fuel taxes for about \$186 million, the corporate profit tax for \$96 million, and the L.C.B.O. and tobacco taxes for \$66 million (see Table 21).

Not surprisingly, the largest tax revenues were generated by transportation expenditures, followed by accommodation and food, and retail trade. The lowest recoveries were made from expenditures on recreation and amusement (see Tables 22-25).

⁶ These include personal income tax, retail sales tax, L.C.B.O. and tobacco tax, gasoline tax, motor vehicle tax, corporate profit tax.

⁷ Ontario Budget, 1983, Treasurer of Ontario, p.57.

⁸ Excluding L.C.B.O., tobacco, motor vehicle fuel, and gasoline taxes - data is not available on a sectoral basis.

The federal government tax collections in Ontario, generated by three sources (personal means tax, corporate profits and retail sales) from tourism related activities amounted to \$765 million. This compares to \$607 million (i.e. L.C.B.O. and tobacco taxes excluded) collected by the provincial government from these same sources.⁹

The total taxes collected (both provincial and federal) from tourism related activities which were accounted for in this study were about \$1,624 million, or about 21 percent of the total gross provincial product (i.e. \$7,921 million) created by tourism expenditures. In relation to total tourism expenditures, this percentage rises to 25.6 percent.

The total taxes collected in Ontario from tourism related activities are higher than the sum of \$1,624 million mentioned above. The reason for this is that we have neglected property taxes collected by local governments. The estimation of the local shares is indeed difficult, given that detailed information on property taxes on cottages, motels, hotels and similar premises is not fully or accurately obtainable. Should this information become available, it would be a simple matter to calculate the local share.

⁹ For the procedures used in estimating these tax revenues please consult Appendix VI.

TABLE 21
TAX REVENUES RECOVERED ON TOURIST EXPENDITURES
TOTAL EXPENDITURE BY REGION IN 1982
(MILLIONS OF DOLLARS)

TYPE OF TAX *	REGION					
	SOUTH- WESTERN ONTARIO	FESTIVAL COUNTRY	GEORGIAN LAKELANDS	METRO TORONTO	CENTRAL ONTARIO	ONTARIO EAST ONTARIO NORTH
PERSONAL INCOME TAX	50.44	62.94	22.07	76.77	27.63	40.13
RETAIL SALES TAX	29.37	36.62	12.84	44.57	16.07	23.38
L.C.B.C. TAX AND TOBACCO TAX	10.37	12.92	4.53	15.77	5.67	8.25
CORPORATE PROFIT TAX	15.65	18.76	6.54	22.84	8.24	11.98
TOTAL	105.25	131.24	46.03	160.09	57.61	83.81
					88.75	672.74 *

* This total does not include Motor Vehicle Fuel Tax and Gasoline Tax.

TABLE: 22

TAX REVENUES RECOVERED ON TOURIST EXPENDITURES
 TOTAL EXPENDITURE ON TRANSPORTATION BY REGION IN 1982
 (MILLIONS OF DOLLARS)

TYPE OF TAX	REGION							TOTAL
	SOUTH- WESTERN ONTARIO	FESTIVAL COUNTRY	GEORGIAN LAKELANDS	METRO TORONTO	CENTRAL ONTARIO	ONTARIO EAST	ONTARIO NORTH	
PERSONAL INCOME TAX	14.88	20.06	5.94	33.62	7.56	16.96	13.74	112.76
RETAIL SALES TAX	8.66	11.67	3.46	19.56	4.40	9.87	7.99	65.60
CORPORATE PROFIT TAX	4.44	5.98	1.77	10.02	2.25	5.05	4.10	33.61
TOTAL	27.98	37.71	11.17	63.20	14.21	31.88	25.83	211.97

TABLE: 23

TAX REVENUES RECOVERED ON TOURIST EXPENDITURES
 TOTAL EXPENDITURE ON ACCOMMODATION AND FOOD BY REGION IN 1982
 (MILLIONS OF DOLLARS)

TYPE OF TAX	REGION						TOTAL
	SOUTH- WESTERN ONTARIO	FESTIVAL COUNTRY	GEORGIAN LAKELANDS	METRO TORONTO	CENTRAL ONTARIO	ONTARIO EAST	ONTARIO NORTH
PERSONAL INCOME TAX	16.75	20.87	9.30	20.84	11.75	12.61	14.14
RETAIL SALES TAX	9.75	12.14	5.41	12.13	6.83	7.34	8.23
CORPORATE PROFIT TAX	4.99	6.22	2.77	6.21	3.50	3.76	4.21
TOTAL	31.49	39.23	17.48	39.18	22.08	23.71	26.58
							199.75

TABLE: 24

TAX REVENUES RECOVERED ON TOURIST EXPENDITURES
 TOTAL EXPENDITURE ON RECREATION AND AMUSEMENT BY REGION IN 1982
 (MILLIONS OF DOLLARS)

TYPE OF TAX	REGION						TOTAL
	SOUTH- WESTERN ONTARIO	FESTIVAL COUNTRY	GEORGIAN LAKELANDS	METRO TORONTO	CENTRAL ONTARIO	ONTARIO EAST	ONTARIO NORTH
PERSONAL INCOME TAX	4.90	7.80	2.00	6.76	3.07	2.64	3.35
RETAIL SALES TAX	2.85	4.54	1.16	3.93	1.79	1.54	1.95
CORPORATE PROFIT TAX	1.46	2.33	.59	2.01	.92	.79	1.00
TOTAL	9.21	14.67	3.75	12.70	5.78	4.97	6.30
							57.38

TABLE: 25

TAX REVENUES RECOVERED ON TOURIST EXPENDITURES
TOTAL EXPENDITURE ON RETAIL TRADE BY REGION IN 1982
(MILLIONS OF DOLLARS)

TYPE OF TAX	REGION						TOTAL
	SOUTH- WESTERN ONTARIO	FESTIVAL COUNTRY	GEORGIAN LAKELANDS	METRO TORONTO	CENTRAL ONTARIO	ONTARIO EAST	ONTARIO NORTH
PERSONAL INCOME TAX	13.89	13.62	4.84	15.55	5.26	10.51	9.95
RETAIL SALES TAX	8.08	7.92	2.82	9.05	3.06	6.11	5.79
CORPORATE PROFIT TAX	4.14	4.06	1.44	4.64	1.57	3.13	2.97
TOTAL	26.11	25.60	9.10	29.24	9.89	19.75	18.71
							138.38

1.4 - CONCLUDING REMARKS

Expenditures on tourism are generally believed to be income elastic; they tend to rise and fall faster than income. Thus the major recession of 1982 brought about large declines in tourism expenditures relative to 1980. For the same reason, when the economy recovers from the recessionary state it has been in for the past three years, expenditure on tourism will probably increase at more than the average rate of growth of the provincial economy and will fuel a major recovery in the tourism industry.

This recovery will entail increases in employment and income in the tourism industry and other related sectors at similarly faster than average rates.

Employment will recover faster than income, as tourism is identified as a strong contributor to the job creation potential of the economy. This follows from the fact that, whereas the employment multiplier was 1.77, the income multiplier was 1.25. This differential multiplier effect allows one to conclude that the income effects of policies to promote tourism spending tend to be concentrated primarily in industries directly providing tourism services, while the employment effects take place relatively more widely throughout the economy.

The differential impact of different types of tourism expenditures also highlights the possibility of adjusting the role played by tourism in the provincial economy, for instance by promoting that category of tourism expenditures with the highest multiplier effects.

REGIONAL IMPACT

2.0 - THE REGIONAL IMPACT OF TOURISM IN ONTARIO

The impact of almost all changes in the economic conditions of the province varies significantly among its different regions. A strike in the paper industry in the north, for example, creates immediate repercussions and adverse effects on workers, consumers, and industries located within that region, as well as in other regions of the province.

In this section we describe the economic impact of tourism expenditures by sectors on the defined seven travel association areas of Ontario. There are indications of significant differences among these areas of Ontario in terms of both the composition and level of economic activity. This occurs in part because of important regional differences within the Ontario economy: processing and end-stages of production tend to be located in Metro Toronto, Central Ontario and South-western Ontario, whereas mining and initial stages of production tend to be located in the North and other outlying areas.

The results to be presented below indicate that it is possible to reduce regional income disparities by selectively encouraging tourism growth in general, and growth in some specific sectors of tourism in particular.

2.1 - REGIONAL EMPLOYMENT

The regional distribution of direct/indirect/induced employment generated by tourism expenditures reveals a consistent profile in which Metro Toronto had the largest absolute amount, 84,300 person-years. The combined areas in the North received 41,999 person-years of employment. Relative to the population shares of the two regions, the North's share is disproportionately high. This suggests that tourism expenditures tend to create economic impact that runs against the prevailing trend of concentrating benefits in the industrial South at the expense of the North. Of particular significance also is the high employment generated in Festival Country, which exceeded 70 thousand person-years. The Georgian Lakelands are claimed the lowest number, almost 27 thousand person-years (see Table 3).

In every region, except Southwestern Ontario, the largest levels of employment generated by tourism expenditures were in the accommodation and food services industries. Retail trade industries generally followed in importance, except in Southwestern Ontario where they ranked first. Indeed most of the jobs created by tourism expenditures are in "local" industries, although in some areas, particularly in Festival Country and Northern areas, the impact is diffused over a larger number of sectors.

Expenditures on public transportation and automobiles, which generated an employment level of 91,850 person-years in Ontario in 1982, have a marked regional effect on employment creation. Festival Country and Metro Toronto travel areas

32.

dominate, with the former showing 16,710 person-years of employment and the latter 27,245 person-years (see Table 4). Though a smaller effect occurs in Northern regions, the area still had 10,411 person-years of employment in response to transportation expenditures by tourists in 1982.

Expenditures by tourists on accommodation and food services have a more diffused regional pattern of employment generation. Most areas show significant employment generated by these expenditures. Festival Country receives almost as large a share as the Metro Toronto area, while the share of Northern areas is almost equal to the share of Ontario East and is larger than the share of Central Ontario (see Table 5).

Expenditures on recreation and amusement had their largest employment impact in Festival Country in 1982. The total number of person-years of employment created in the Festival Country area was 7,307, whereas Metro Toronto's share was 6,267 person-years only. The Northern areas combined showed a total employment share of 2,872 person-years, which was higher than the corresponding shares of Central Ontario, Ontario East and Georgian Lakelands (see Table 6).

Finally, expenditures on retail trade, which generated a total of 91,530 person-years in Ontario in 1982, show a regional concentration of employment impact, with Metro Toronto having 19,834 person-years, followed by Southwestern Ontario with 17,023 person-years. Nonetheless, Festival Country, Ontario East and the combined Northern areas showed respectable employ-

ment figures generated of 16,955, 13,353, and 11,489 person-years, respectively (see Table 7).

On a comparative basis, and independent of units of measurement, the highest regional employment multiplier is in Southwestern Ontario (2.12), followed by Festival Country (1.88). The provincial average, as mentioned earlier, is 1.77. The lowest multiplier is in Georgian Lakelands (1.55) (see Table 8).

Irrespective of region, expenditures by tourists on transportation had the highest employment multiplier. It reached almost 4.00 in Southwestern Ontario, followed by 3.66 in Ontario North (see Table 8).



2.2 - REGIONAL INCOME

The regional pattern of income creation by tourist expenditures in 1982 reveals a number of interesting features (see Table 14). First, each and every region of the province shares in the total income generated by tourism expenditure. Second, the income generation pattern is more diffused over space than over sectors. Third, the relative impact on the outlying regions with limited populations is far greater than on the densely populated areas of the province. Fourth, the local sectors of the regions generate the largest share of income in each region, particularly those local sectors that are affected directly by tourism expenditures. Fifth, Metro Toronto and Festival Country are the two regions with the largest absolute income generated by tourism, whereas the Northern areas and Ontario East receive more income per capita associated with tourism expenditures than the rest of the province's Travel Association Areas. Sixth, the impact of different expenditure categories is regionally differential.

Expenditures on transportation by tourists in Ontario generated over \$2.7 billion of income in 1982. Most of this income was generated in Metro Toronto, about \$825 million, but the remaining regions received substantial shares, particularly Festival Country (\$492 million) and Ontario East (\$416 million) (see Table 15). Georgian Lakelands and Central Ontario received smaller shares of \$146 million and \$186 million, respectively.

Expenditures on accommodation and food, however, generated a more equitable regional distribution of income. In fact, Festival Country received \$512 million of the income generated by this tourist activity and this value exceeded the share of Metro Toronto, which stood at \$511 million. Equally respectable were the share of Ontario North, (\$347 million), and Southwestern Ontario (\$411 million). Even the lowest income generated in Georgian Lakelands was a sizable \$228 million (see Table 16).

The regional pattern of income creation of expenditure by tourists on amusement and recreation is not much different than that of expenditures on accommodation and food. Festival Country shows the highest share of \$192 million, followed by Metro Toronto with \$166 million and then by Southwestern Ontario with \$120 million (see Table 17). Again, Ontario North and the other less populous regions received relatively high shares of the income generated by these expenditures.

Large regional incomes were created by expenditures on retail trade and these incomes show a more marked concentration in regions with large urban centres. Nonetheless, the diffusion of their income impact into the outlying regions is clear and substantial (see Table 18).

The regional income multipliers reveal a distinct differential pattern, with Southwestern Ontario showing the highest income multiplier (1.55) and Central Ontario the lowest (1.10). It is also interesting to note that Ontario North's

income multiplier is quite high at 1.45 ¹⁰ (see Table 19).

Unlike the case of employment multipliers, the highest income multipliers across the regions, except in the Northern part of the province, are associated with retail trade. Income multipliers generated by expenditures on transportation are generally high and rank second after retail trade in every region, except Ontario North, where they rank first, and South-western Ontario where they rank third.

Generally the income multipliers are lower than the employment multipliers. This follows from the fact that a large part of Ontario income is transferred abroad, as dividends paid to non-residents and as payments for services rendered by non-residents, whereas wage incomes are principally paid domestically.

¹⁰ A closer look at the industrial composition of the income impact in the Northern region reveals a concentration of high income generators in this region.



2.3 - REGIONAL PROVINCIAL TAXES

It is not easy to allocate taxes generated by tourism expenditures over the various areas of Ontario. In fact, only four types of taxes are amenable to such an approach, namely personal income taxes, retail sales taxes, corporate profit taxes and L.C.B.O. and tobacco taxes.

To allocate personal income taxes over regions first required the conversion of gross provincial regional product into personal income. Strictly speaking, the proper method entails the subtraction of depreciation and indirect business taxes, and the addition of transfer payments, undistributed profits, corporate profit taxes, bad debts, etc. to Gross Provincial Product by region. This type of data is, unfortunately, unavailable on a regional basis. What we have done instead is to assume that the Ontario ratio of personal income to gross provincial product applies to every region, and have used this ratio to convert gross regional product into gross regional personal income. Furthermore, it was assumed that the personal income tax collected in the province as a percentage of personal income applies to the personal income generated by tourism in every region (for details consult Appendix VI).

The main features of the results indicate that the Metro Toronto Region contributes the bulk of the personal income taxes collected, representing about one quarter of the total personal income taxes generated by tourism expenditures (see Table 21). Personal income taxes collected from Festival Country

are slightly lower than those collected from the Metro Toronto region. The smallest contribution was made by the Georgian Lakelands area. The sectoral distribution is also pronounced, with expenditures on transportation accounting for the major part of personal taxes collected in Metro Toronto and Ontario East, whereas expenditures on accommodation and food account for the highest share of personal income tax revenues in South-western Ontario, Festival Country, Georgian Lakelands, Central Ontario and Ontario North. This same pattern is also observed in the geographical distribution of corporate profit taxes.

The results support the proposition that regional taxes generated by tourism expenditures are different regionally and sectorally. The rich regions contribute the bulk of the taxes, and transportation and accommodation and food tourism expenditures account for most of the taxes collected by the provincial government.

2.4 - CONCLUSIONS

The regions of the province share unequally in the growth and prosperity of the economy. Nevertheless it is possible in principle to encourage the growth of particular regions by encouraging the growth of tourism in general, and more so by selectively encouraging and stimulating the growth of particular tourism sectors and activities. What is perhaps more fundamental here is that, whereas the growth of several industrial sectors in particular regions of Ontario results in considerable spillovers which simultaneously flow into the central core, the impact of tourism growth tends to be flowing in the opposite direction.

It then follows that policy measures may be used to raise income levels in the outlying regions of Ontario, or to reduce unemployment or under-employment in those regions, without tending to concentrate such benefits in the central core, as most other industrial expansions appear to do.

Tourism appears to represent a significant proportion of the employment and income structure of many regions of the province. Its growth, or lack of it, will carry significant spillover effects to the economies of these regions.

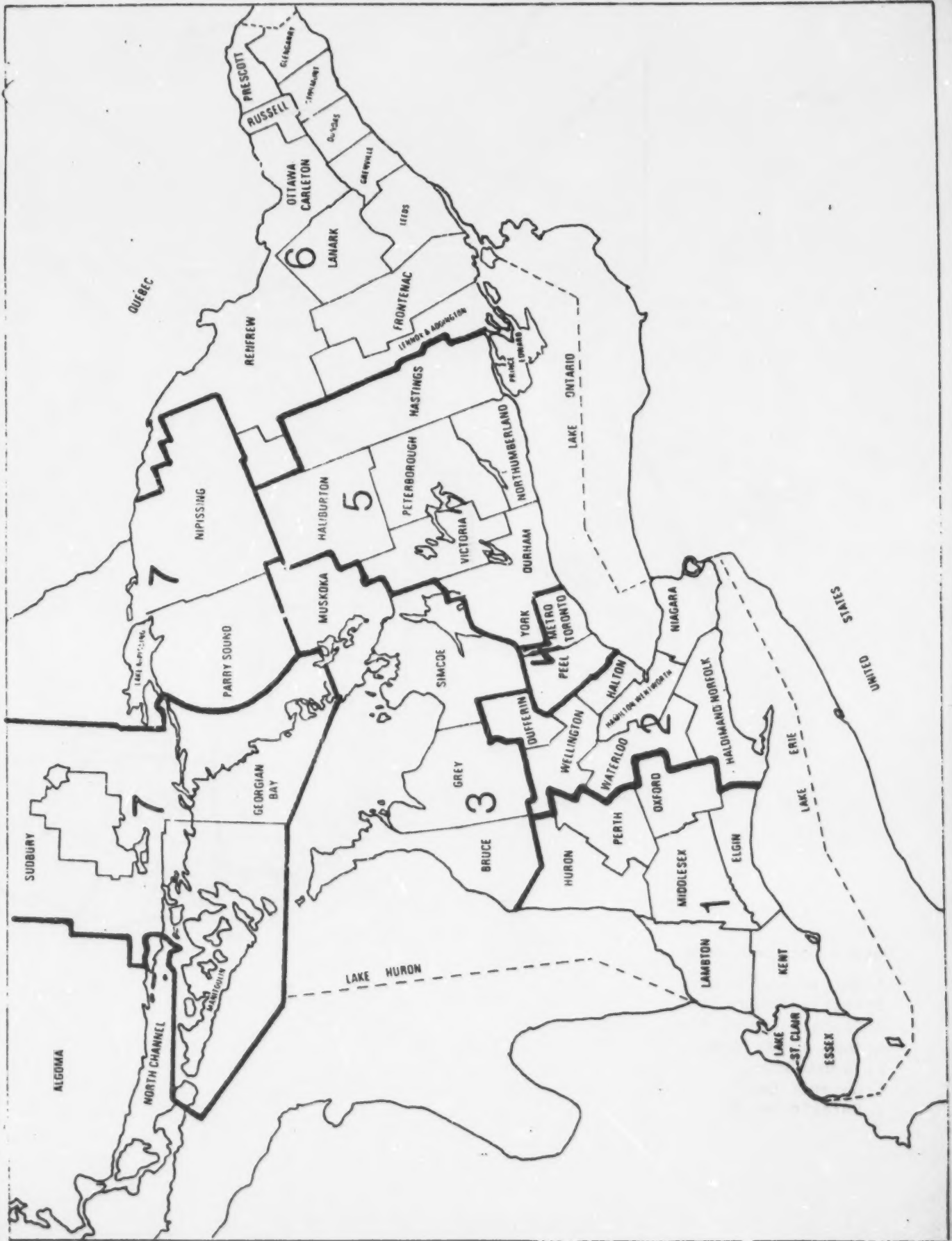
Given that the demand for tourism is income-elastic, the growth of the province's income will lead to larger increases in tourism expenditure. If capacity were not to keep up with demand, significant losses would occur and the impact

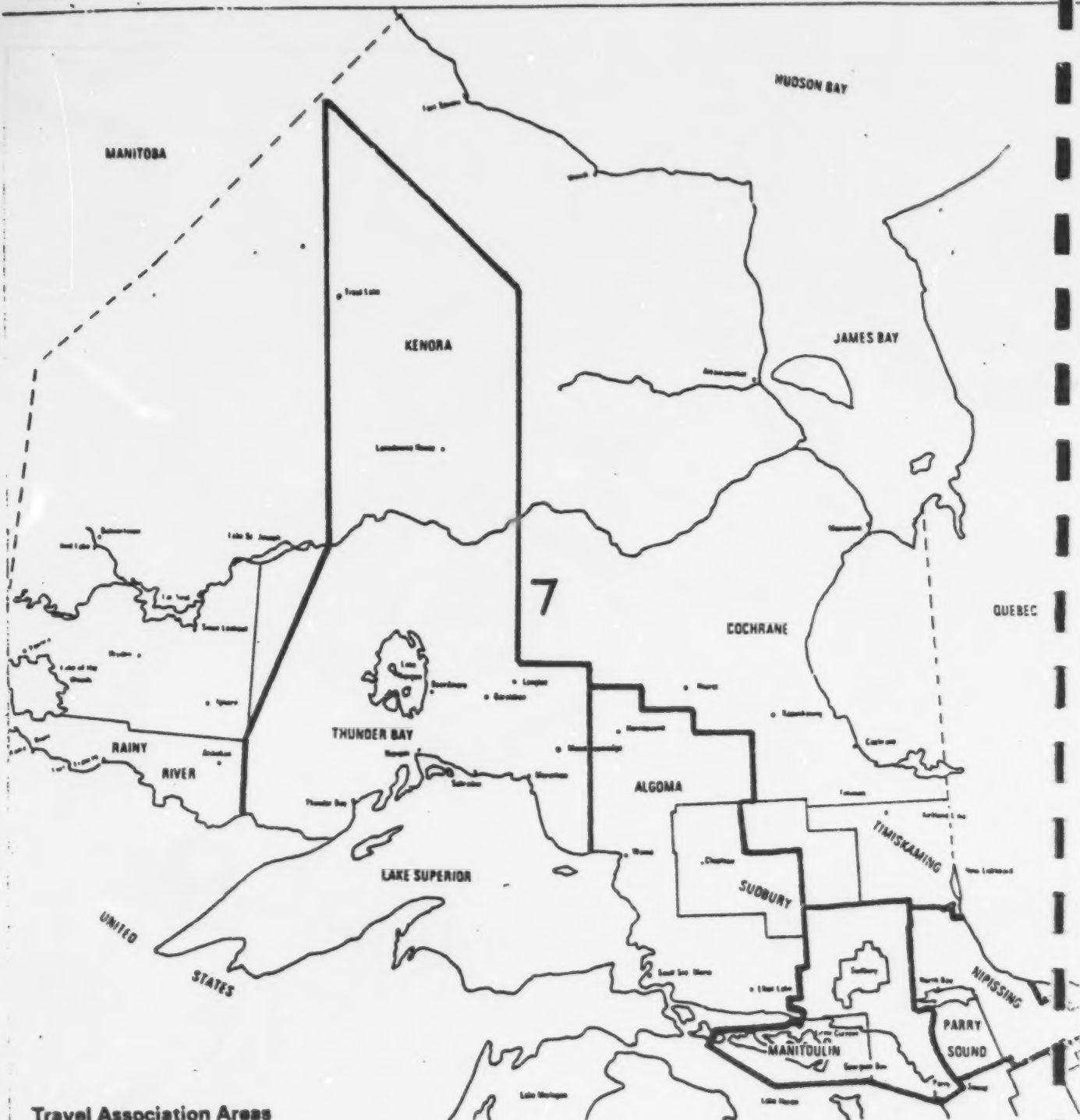
would differ regionally, with the Northern regions suffering relatively more than the Southern ones. Furthermore, given that employment generated by tourism and related activities is concentrated in the service sector and is characteristically in low-wage jobs, it must be remembered that changes in the minimum wage law will have a differential effect according to a region's dependence on tourism.

Finally, tourism expenditures generate substantial tax revenues -- more so for the Federal than the Provincial government both in absolute and relative terms. This fact should be used to stimulate Federal help and cooperation in financing a larger share of tourism programs and projects.

APPENDIX I

MAP





Travel Association Areas

1. Southwestern Ontario
2. Festival Country
3. Georgian Lakelands
4. Metropolitan Toronto
5. Central Ontario
6. Ontario East
7. Ontario North

APPENDIX II

TABLES A.1 TO A.5

Table A.1
ECONOMIC IMPACT INDICATORS OF TOURIST EXPENDITURES IN ONTARIO, 1982
VALUE OF GROSS OUTPUT BY SECTOR AND REGION
(MILLIONS OF DOLLARS)

TOTAL EXPENDITURE

SECTOR	REGION							TOTAL
	SOUTH- WESTERN ONTARIO	FESTIVAL COUNTRY	GEORGIAN LAKELANDS	METRO TORONTO	CENTRAL ONTARIO	ONTARIO EAST	ONTARIO NORTH	
AGRICULTURE	267.50	16.45	0.00	0.00	0.00	25.00	13.98	445.75
MINING & METALLURGY	10.70	38.00	0.00	0.00	0.00	49.00	15.00	175.55
FOODS & BEVERAGES	127.10	38.00	0.00	0.00	0.00	49.00	0.00	175.55
TEXTILES & CLOTHING, ETC.	0.00	10.00	0.00	0.00	0.00	0.00	0.00	10.00
WOOD & FURNITURE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PRINTING & PUBLISHING	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RECREATION & AMUSEMENT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TRANSPORTATION	1.70	0.00	0.00	0.00	0.00	0.00	0.00	1.70
COMMUNICATIONS	3.40	0.00	0.00	0.00	0.00	0.00	0.00	3.40
GOVERNMENT	9.00	0.00	0.00	0.00	0.00	0.00	0.00	9.00
UNEMPLOYMENT	25.00	0.00	0.00	0.00	0.00	0.00	0.00	25.00
RETAIL	43.00	0.00	0.00	0.00	0.00	0.00	0.00	43.00
WHOLESALE	39.00	0.00	0.00	0.00	0.00	0.00	0.00	39.00
TRADE	39.00	0.00	0.00	0.00	0.00	0.00	0.00	39.00
RECREATION	39.00	0.00	0.00	0.00	0.00	0.00	0.00	39.00
FOOD SERVICES	39.00	0.00	0.00	0.00	0.00	0.00	0.00	39.00
OTHER SECTORS	39.00	0.00	0.00	0.00	0.00	0.00	0.00	39.00
TOTAL	2305.94	2929.18	1006.43	1602.73	1267.03	1971.96	1405.46	14988.77

Table A.2
ECONOMIC IMPACT INDICATORS OF TOURIST EXPENDITURES IN ONTARIO, 1982
VALUE OF GROSS OUTPUT BY SECTOR AND REGION
TOTAL EXPENDITURE ON TRANSPORTATION & PUBLIC TRANSPORTATION AND AUTOMOBILES

SECTOR	REGION						TOTAL
	SOUTH- WESTERN ONTARIO	ELSTIVAL COUNTRY	GEORGIAN LAKELANDS	METRO TORONTO	CENTRAL ONTARIO	ONTARIO EAST	
AGRICULTURE	66.75	42.00	0.00	0.00	0.00	0.00	118.75
MINING	4.30	0.00	0.00	0.00	0.00	0.00	4.30
FOOD & BEVERAGES	6.90	9.00	0.00	0.00	0.00	0.00	15.90
RUBBER & PLASTIC	0.00	0.00	0.00	0.00	0.00	0.00	0.00
LEATHER	0.00	0.00	0.00	0.00	0.00	0.00	0.00
YARNS, CLOTHING, ETC.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WOOD	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FURNITURE & FIXT	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PAPER & PUBLISHING	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PRINTING & PUBLISHING	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PRIMARY METALLURING	0.00	0.00	0.00	0.00	0.00	0.00	0.00
METAL FABRY EQUIP	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MACHINERY EQUIP	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TRANSPORT EQUIP	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ELECTRICALS & CHEM	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NON-METALS & CHEM	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OTHER MANUFACTURING	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WHOLESALE TRADE	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RETAIL TRADE	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RENTAL & RECREAT	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ACCOMMODATION & FOOD SERVICE	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OTHER SECTORS	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	754.21	1033.53	307.90	1741.76	391.58	879.59	5785.70

TABLE 1 A.3
ECONOMIC IMPACT INDICATORS OF TOURIST EXPENDITURES IN ONTARIO, 1982
VALUE OF GROSS OUTPUT BY SECTOR AND REGION
(MILLIONS OF DOLLARS)
TOTAL EXPENDITURE ON ACCOMMODATION AND FOOD

SECTOR	REGION							TOTAL
	SOUTH- WESTERN ONTARIO	FESTIVAL COUNTRY	GEORGIAN LAKELANDS	METRO TORONTO	CENTRAL ONTARIO	ONTARIO EAST	ONTARIO NORTH	
AGRICULTURE	120.50	7.1	0.0	0.0	0.0	0.0	0.0	227.50
MINING	3.40	1.0	0.0	0.0	0.0	0.0	0.0	4.40
FOOD & BEVERAGES	13.90	19.0	0.0	0.0	0.0	0.0	0.0	32.90
RUBBER & PLASTIC	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.00
LEATHER	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.00
YARNS, CLOTHING, ETC.	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.00
4000	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.00
FURNITURE & FIXTURES	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.00
PAINTS, GLASS, CERAMIC	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.00
PRINTING & PUBLISHING	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.00
TEXTILE & APPAREL	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.00
METAL CRAFTING	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.00
MACHINERY & EQUIPMENT	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.00
TRANSPORTATION	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.00
TELECOMMUNICATIONS	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.00
RECREATION & CULTURE	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.00
OTHER MANUFACTURING	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.00
CONSTRUCTION	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.00
COMMERCE & SERVICES	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.00
COMMUNICATIONS	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.00
WHOLESALE & RETAIL TRADE	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.00
FINANCIAL & INSURANCE	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.00
GOVERNMENT & SOCIAL SERVICES	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.00
OTHER SECTORS	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.00
TOTAL	751.33	934.50	412.32	324.61	521.03	560.70	623.75	4732.29

TABLE 8
A.4
ECONOMIC IMPACT INDICATORS OF TOURIST EXPENDITURES IN ONTARIO, 1942
VALUE OF GROSS OUTPUT BY SECTOR AND REGION
(MILLIONS OF DOLLARS)

SECTOR	REGION							TOTAL
	SOUTH- WESTERN ONTARIO	FESTIVAL COUNTRY	GEORGIAN LAKELANDS	METRO TORONTO	CENTRAL ONTARIO	ONTARIO EAST	ONTARIO NORTH	
AGRICULTURE	19.10	1.00	0.00	0.00	0.00	0.00	0.00	19.10
FOOD & BEVERAGES	1.99	1.00	0.00	0.00	0.00	0.00	0.00	2.99
FURNITURE & PLASTIC	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
LEATHER	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TEXTILES & CLOTHING, ETC.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WOOD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FURNITURE & FIFTH	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PAINTS & ALUMINUM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PRINTING & PUBLISHING	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RECREATION & AMUSEMENT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MACHINERY & EQUIPMENT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TRANSPORTATION	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ELECTRONICS & INSTRUMENTS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OTHER MANUFACTURING	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CONSTRUCTION	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
COMMUNICATIONS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UTILITIES & SERVICES	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WHOLESALE & RETAIL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FINANCIAL & INSURANCE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GOVERNMENT & FOOD SERVICE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OTHER SECTORS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	235.32	370.47	96.66	127.10	140.44	120.36	156.40	1469.50

TABLE 1 A.5
ECONOMIC IMPACT INDICATORS OF TOURIST EXPENDITURES IN ONTARIO, 1982
VALUE OF GROSS OUTPUT BY SECTOR AND REGION
(MILLIONS OF DOLLARS)

TOTAL EXPENDITURE ON RETAIL TRADE

SECTOR	REGION						
	SOUTH- WESTERN ONTARIO	FESTIVAL COUNTRY	GEORGIAN LAKELANDS	METRO TORONTO	CENTRAL ONTARIO	ONTARIO EAST	ONTARIO NORTH
TOTAL	59.00	36.00	9.00	3.00	.01	50.00	6.00
AGRICULTURE	2.00	0.00	0.00	0.00	.01	.50	3.00
MINING	4.00	0.00	0.00	0.00	.01	.50	1.00
FOOD & BEVERAGES	4.00	0.00	0.00	0.00	.01	.50	1.00
RUBBER & PLASTIC	0.00	0.00	0.00	0.00	.01	.50	1.00
LEATHER	0.00	0.00	0.00	0.00	.01	.50	1.00
TEXTILES, CLOTHING, L.T.C.	0.00	0.00	0.00	0.00	.01	.50	1.00
WOOD	0.00	0.00	0.00	0.00	.01	.50	1.00
FURNITURE & FIXTURES	0.00	0.00	0.00	0.00	.01	.50	1.00
PAPER & ALLIED IND.	0.00	0.00	0.00	0.00	.01	.50	1.00
PRINTING & PUBLISHING	0.00	0.00	0.00	0.00	.01	.50	1.00
PRIMARY METAL IND.	0.00	0.00	0.00	0.00	.01	.50	1.00
NON-FERROUS METAL IND.	0.00	0.00	0.00	0.00	.01	.50	1.00
MACHINERY & EQUIP.	0.00	0.00	0.00	0.00	.01	.50	1.00
TRANSPORT	0.00	0.00	0.00	0.00	.01	.50	1.00
ELLECTRICITY	0.00	0.00	0.00	0.00	.01	.50	1.00
NON-METAL MINING	0.00	0.00	0.00	0.00	.01	.50	1.00
OTHER MANUFACTURING	0.00	0.00	0.00	0.00	.01	.50	1.00
CONSTRUCTION	0.00	0.00	0.00	0.00	.01	.50	1.00
TRANSPORTATION	0.00	0.00	0.00	0.00	.01	.50	1.00
COMMUNICATIONS	0.00	0.00	0.00	0.00	.01	.50	1.00
RETAIL TRADE	119.50	119.50	119.50	119.50	119.50	119.50	119.50
WHOLESALE TRADE	119.50	119.50	119.50	119.50	119.50	119.50	119.50
RECREATION	119.50	119.50	119.50	119.50	119.50	119.50	119.50
ACCOMMODATION	119.50	119.50	119.50	119.50	119.50	119.50	119.50
FOOD SERVICE	119.50	119.50	119.50	119.50	119.50	119.50	119.50
OTHER SERVICES	119.50	119.50	119.50	119.50	119.50	119.50	119.50
TOTAL	592.50	592.50	592.50	592.50	592.50	592.50	592.50

APPENDIX III

A NOTE ON TOURISM
EXPENDITURE MULTIPLIERS

A NOTE ON TOURISM EXPENDITURE MULTIPLIERS

The income and employment multipliers associated with tourism expenditure by sector are derived by using the formulae that are outlined in Appendix V. They involve adding direct, indirect and induced effects by sector in every region and dividing the total thus derived by the original expenditure and the direct employment, respectively, by sector. For instance, the income multiplier associated with Public Transportation expenditure is 1.26. This is calculated by dividing the total income generated in all regions in Ontario - \$2,768 million - by the \$2,199 million tourists spent on public transportation and automobiles.

In general, the industrial income multiplier in Table 20 is comparable to that associated with tourism expenditures. Although the industrial multiplier was derived for Ontario as a whole using the input-output tables of Ontario, whereas the tourism expenditure multiplier used a combination of input-output analysis and regional macroeconomic models, the two multipliers use the same principle, namely, the ratio of direct, indirect and induced effects to the original tourism expenditures.

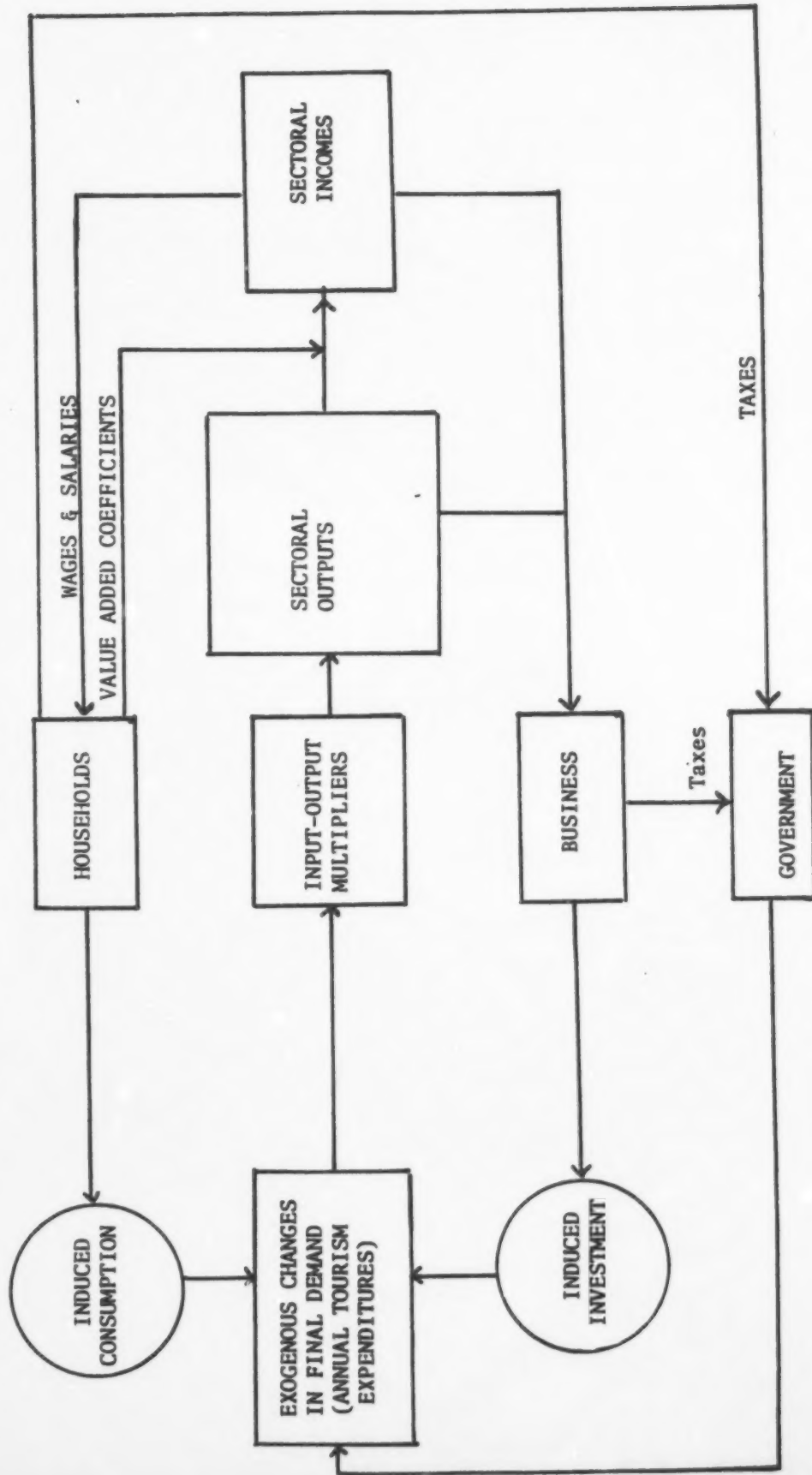
Multipliers are indices of the response of endogenous variables such as income, output and employment with respect to an exogenous change. Their applicability is contingent on the model used and the nature of assumptions defining the model's structure. Extending the use of the multipliers to situations

that are not governed by assumptions similar to those used in the model may result in wrong estimates. Thus, care must be exercised in using these indices in situations that have distinct characteristics outside the scope of the system within which the multipliers were derived.

APPENDIX IV

SCHEMATIC REPRESENTATION
OF THE MODEL

SCHEMATIC REPRESENTATION OF THE MODEL





APPENDIX V

THE TECHNICAL MODEL



APPENDIX V

THE TECHNICAL MODEL(a) - The Assumptions of the Model

The model applied in this study is based on a number of assumptions that qualify and restrict its applicability. These assumptions are independent of those made to construct the data needed to implement it, although some of the latter ones are indistinguishable from those pertaining to the model. The following is a short list of some of the crucial assumptions:

1. The supply of labour is perfectly elastic at the prevailing equilibrium wage rates, and employment is demand determined.
2. The supply of output is perfectly elastic at the prevailing equilibrium prices.
3. Consumption is a linear function of disposable income and is independent of relative prices. This assumes that individuals possess Cobb-Douglas identical utility functions. It is also consistent with the assumption that each economic region of the Province consumes a fixed proportion from each commodity.
4. The Travel Association regions of the Province are assumed to be too close to each other and sufficiently

specialized such that no interregional input-output system is required to analyze the regional income and employment multipliers.

5. No substitution among factors of production is permitted.
6. The system is essentially static.
7. Industrial purchases associated with each tourist category of expenditure are invariant with the level of expenditures. In other words, they represent fixed proportions.

(b) - The Computations of Regional Income and Employment

In what follows, an attempt will be made to verbalize complex mathematical manipulations. Readers familiar with mathematics should go to Section (c) instead.

The income impact of tourist expenditures in a given region is the sum of two effects. The first pertains to a small macro-keynesian model of the region. Any change in expenditure in the region triggers a chain reaction, where the consumption of one economic agent is the income of another and so forth. The sum of this series is the direct and indirect and induced income generated in the region. Leakages of taxes, and imports are subtracted. The region is also the recipient of another amount of income. The interactions among the regions of

the Province account for this. Expenditures of tourists in all other regions, plus the region's imports from Ontario, set in motion an input-output process. The calculations are most easily visualized as being performed in two successive rounds. The first round consists of a conventional input-output calculation to determine the direct, indirect and induced output required to sustain a given level of tourist expenditures. In the second round, the output effects are converted into income effects, and simultaneously allocated over the seven Travel Association regions using the data on the regional distribution of sectoral value added and wages.

(c) - The Structure of the Model

1. The Provincial Model

The basic model is a provincial input-output system. The core of this system is an input-output matrix, A , with elements a_{ij} giving the value of the output of sector j required to produce one dollar's worth of output of sector i . This matrix is an aggregation of the rectangular input-output system of Ontario. Output of sector j is also used to satisfy consumption demand and other final demand. A vector of consumption coefficients, c , gives the fraction of each dollar of consumption spending supplied by each sector. Given vectors of other final demands, f , (f_j gives the amount of sector j 's output required for other final demand) and imports, m , (m_j is the amount of sector j 's output which is imported), the demand-supply balance may be stated as:

$$(1) \quad X_j = \sum_i a_{ij} X_i + c_j C + f_j - m_j$$

where X_j is the level of output of sector j and C is the level of consumption or in matrix notation:

$$(1') \quad X = AX + cC + f - m$$

Imports of the output of sector j are assumed to be a fixed proportion of total demand for the output of sector j ,

$$(2) \quad m_j = u_{jj} (\sum_i a_{ij} X_i + c_j C + f_j)$$

or letting $\hat{u}$ denote a diagonal matrix with elements u_{jj} :

$$(2') \quad m = \hat{u} (AX + cC + f)$$

Combining (1') and (2') we have.

$$(3) \quad [I - (I - \hat{u})A] X = (I - \hat{u})(cC + f)$$

The model is completed by adding a relationship linking consumption to income, Y .

$$(4) \quad C = bY$$

Income is related to gross outputs by a vector of value-added coefficients v (v_j is the income generated by the production of one unit of the output of sector j). Thus

$$(5) \quad Y = \sum_j v_j X_j + W$$

where W represents direct income payments associated with final demand or in matrix notation

$$(5') \quad Y = v'X + W$$

Equations (3), (4) and (5) make up the basic model, which can be expressed by a single equation if (4) and (5) are substituted into (3)

$$(6) \quad [I - (I - \hat{u})(A + cbv')] X = (I - \hat{u})(f + cvW)$$

The province-wide impacts of tourist expenditures in a particular region, r , are computed by replacing the vector f in equation (6) by the vector of sectoral demands associated with expenditure, P (P_{jr} is the demand for the output of sector j associated with the expenditure in region r),

$$(7) \quad [I - (I - \hat{u})(A + cbv')] X = (I - \hat{u})(P_r)$$

The gross output levels associated with expenditures by tourist expenditures can be computed from (8).

$$(8) \quad X = [I - (I - \hat{u})(A + cbv')]^{-1} (I - \hat{u})(P_r)$$

2. The Regional Model

The sectors of the provincial model are divided into two groups; provincial and regional sectors. The supply of output from a provincial sector to any region is drawn from all regions, with a fixed proportion coming from each region. These proportions differ from one region to another for any sector and from one provincial sector to another for any region. Thus, if X_j is the gross output of provincial sector j , the gross output of sector j originating in region r , X_{jr} , is equal to a fixed proportion, k_{jr} , of X_j . In vector notation

$$(9) \quad X_r^P = \hat{k}_r X_p$$

where X_r^P is the vector of outputs of provincial sectors in region r

$\hat{k}_r$ is the diagonal matrix of the coefficients k_{jr} for region r

and X_p is the column vector of outputs of the provincial sectors.

The vector of outputs of provincial sectors, X_p , is computed from equation (8). These outputs are then allocated across regions using equation (9).

Regional sectors supply output only in their own region and are the only supplier of regional output in their own region. The demand for the output of regional sectors comes from four sources (all net of imports): other final demand, consumption final demand, intermediate demand from other regional sectors and intermediate demand from provincial sectors located in the region. Thus the demand-supply balance for regional sector s in region r can be stated as:

$$(10) \quad X_{sr} = \sum_i a_{is} X_{ir} + \sum_i a_{is} X_{jr} + c_s C_r + f_{sr} - m_{sr}$$

where i is an index of provincial sectors

j is an index of regional sectors

and r is an index of regions

The demand-supply balance for all regional sectors in a region can be written in matrix form

$$(10') \quad X_r^L = A_{LP} X_r^P + A_{LL} X_r^L + c_L C_r + f_{Lr} - m_{Lr}$$

where X_r^L is a vector of the outputs of the regional sectors
in region r

X_r^P is a vector of the outputs of the provincial sectors
in region r

A_{LP} is a matrix of intermediate demand coefficients by
provincial sector's on regional sectors

A_{LL} is a matrix of intermediate demand coefficients by
regional sectors on regional sectors

c_L is a vector of consumption coefficients for regional
sectors

C_r is consumption in region r

f_{Lr} is a vector of other final demands on regional sectors
in region r

and m_{Lr} is a vector of imports of regional sectors into region
 r .

Imports are assumed to be fixed proportions, u_{ss} of all demands,
as in the provincial model (see equation 2):

$$(11) \quad m_{sr} = u_{ss} \left(\sum_i a_{is} X_{ir} + \sum_j a_{js} X_{jr} + c_s C_r + f_{sr} \right)$$

Letter $\hat{u}_L$ denotes a diagonal matrix of the import coefficients,
 u_{ss} , we can write the above in matrix form:

$$(11') \quad m_{Lr} = u_L [A_{LP} X_r^P + A_{LL} X_r^L + c_L C_r + f_{Lr}]$$

Combining (10') and (11') we have:

$$(12) \quad X_R^L = (I - \hat{u}_L) A_{LP} X_R^P + (I - \hat{u}_L) A_{LL} X_R^L + (I - \hat{u}_L) c_L C_R + (I - \hat{u}_L) f_{LR}$$

Regional consumption, C_R , is related to regional income, Y_R , by a constant marginal and average propensity to consume, b .

$$(13) \quad C_R = b Y_R$$

In turn, regional income is equal to the sum of regional outputs multiplied by the corresponding value added coefficients plus direct income payments associated with final demand in the region, W_R .

$$(14) \quad Y_R = \sum_i v_i X_{iR} + \sum_j v_j X_{jR} + W_R$$

or in matrix notation

$$(14') \quad Y_R = v_P' X_R^P + v_L' X_R^L + W_R$$

where v_P is a vector of value added coefficients in the provincial sectors

and v_L is a vector of value added coefficients in the regional sectors

Substituting equations (13) and (14') into equation (12) gives the final version of the supply-demand balances for the regional sectors.

$$(15) \quad (I - (I - \hat{u}_L)(A_{LL} + c_L b v_L')) X_R^L = (I - \hat{u}_L)(A_{LP} + c_L b v_P') X_R^P + (I - \hat{u}_L)(f_{LR} + c_L b W_R)$$

The impact on the regional sectors is obtained by computing X_R^P from the provincial model and replacing f_{LR} by the sectoral demands associated with tourism expenditures. The gross output levels of the regional sectors are thus calculated on the basis of the solution to equations (15).

$$(16) \quad X_R^L = (I - ((-\hat{u}_L)(A_{LL} + cbv_L'))^{-1}((I - \hat{u}_L)(A_{LP} + c_L bv_P')X_R^P + (I - \hat{u}_L)(P_{LR})L$$

Given solutions for X_R^P (from equations (8)) and X_R^L (from equations (16)), income in region r , Y_R , can be computed from equations (14'). Employment income can be computed from wage value-added coefficients, w_i according to:

$$(17) \quad Y_{wr} = w_p' X_R^P + w_L'' X_R^L$$

where w_p is a vector of wage value added coefficients for the provincial sectors

and w_L is a vector of wage value added coefficients for the regional sectors.

Employment in the region, E_r , is then computed by converting sectoral wage incomes to sectoral employments and adding park employment in region r , E_{rp} .

(d) - Difficulties with the Approach

It should be emphasized that economic models are primarily tools of planning and decision making. They do not replace the process of decision making but merely assist it. The model presented here suffers from the same limitation as all other models. It does not take account of all conceivable influences on the real systems to which it relates. It is ultimately a facsimile of reality. But this facsimile is a powerful construction that can explore idealized alternatives which could not be investigated in reality. It can be

used for prediction, usually in a hypothetical and conditional form: if you do this, then that will follow, or if you want that to happen, then you must do this. Naturally, the results are not always precise and can only be viewed in the light of the assumptions made.

The assumptions made to operationalize our model impute a large measure of difficulties that should best be evaluated before wide-spread use of the model is made.

The assumptions about excess capacities appear to be true in most of the regions of the study.

The fixity of technologies, prices and wages are essential to the structure of the model and its conclusions. Variations in any or all of these variables condition and qualify our conclusions. Furthermore, if the structure of production of the various regions is thought to be less specialized, and transport costs among the various sub-regions are considered substantial, then the approach utilized here would have to be replaced with another that allows close sub-regions to trade more substantially with each other than is currently the case under this model.

The static nature of the model with investment taken as fixed will generate impact effects that are often temporary and fall short of the total effects.

Finally, we would like to emphasize that despite these problems and other problems relating to the data, our model does have a great advantage, given its ability to provide quantitative estimates of impact in place of general impressions and guesses about the spatial effects of tourism in Ontario.

APPENDIX VI

TAX CALCULATION METHODOLOGY

TAX CALCULATION METHODOLOGY

Taxes associated with tourism expenditures were chosen to be:

- (1) Personal income taxes
- (2) Corporate profit taxes
- (3) General sales taxes
- (4) Motor vehicle fuel tax and gasoline tax
- (5) L.C.B.O. tax and tobacco tax

Federal and provincial tax revenues associated with tourism expenditures were singled out. Tax revenues collected by municipal governments were considered but found too difficult to gauge.

A. We begin with provincial tax revenues.*

1. Personal Income Taxes

First, personal income in Ontario in 1982 is expressed as a percentage of gross provincial product.

$$\alpha = \frac{\text{Personal Income}}{\text{GPP}} = \frac{118.6}{132.4} = 0.8957704$$

Personal income taxes in the province (the average of 1981 and 1982) were \$5.393 billion which established an effective tax rate of:

$$\beta = \frac{\text{Personal income taxes}}{\text{Personal income}} = \frac{\frac{(4.928 + 5.858)}{2}}{118.6} = 0.0454722$$

Thus, personal income taxes associated with tourism in each region was calculated as:

* All the data used here are from Ontario Budget 1982, 1983.
Ontario Ministry of Treasury and Economics.

Personal Income taxes in Region $i = \alpha \cdot \beta \cdot Y_i$

where Y_i is the total income generated by tourism expenditures in region i .

2. Retail Sales Tax

The effective retail sales tax rate in Ontario in 1982 was established as the ratio of 1981 and 1982 tax revenues from this tax to total retail sales in 1982.

$$\gamma_1 = \frac{(2.853 + 3.422)}{35.5} = \frac{3.1375}{35.5} = 0.0883803$$

Retail Sales in 1982 represented about 26.8 percent of GPP. This establishes parameter γ_2 which translates income into retail sales.

$$\gamma_2 = \frac{35.5}{132.4} = 0.2681269$$

thus, retail sales tax revenues associated with tourism expenditures in Ontario in 1982 are:

$$\text{Retail Sales Tax} = \gamma_1 \cdot \gamma_2 \cdot Y_i$$

3. Corporate Profit Tax

Total corporate profit taxes in Ontario in 1982 were estimated as the average between 1981/82 and 1982/83. This average was then used to establish an effective tax rate in 1982 as

$$\phi_1 = \frac{1.6075}{7.8} = 0.2060897$$

The ratio of corporate profits before taxes to GPP were put at about 6 percent.

$$\phi_2 = \frac{\text{corporate profits}}{\text{GPP}} = \frac{7.8}{132.4} = 0.0589124$$

The Corporate Profit tax associated with tourism expenditure was then calculated as:

$$\text{Corporate Profit Tax} = \phi_1 \cdot \phi_2 \cdot Y_1$$

4. L.C.B.O. Tax and Tobacco Tax

Tourism expenditures in 1982 generated \$7.921 billion in income. This represented about 6 percent of GPP.

$$\lambda = \frac{\text{total income due to tourism}}{\text{GPP}} = \frac{7.921}{132.4} = 0.0598263$$

This ratio is used to allocate the proportion of tax revenues from this source to tourism. The regional allocation was as follows:

$$\text{L.C.B.O. and Tobacco Taxes} = \frac{Y_i}{\sum_i Y_i} \cdot \lambda \cdot \text{Total L.C.B.O. and Tobacco Taxes collected}$$

5. Motor Vehicle Fuel Tax and Gasoline Tax

Of every hundred miles travelled in Ontario almost 19 miles are associated with tourism. Gasoline taxes are assumed to be proportional to fuel consumption and the latter is proportional to mileage. Therefore 0.19 of total gasoline and motor fuel taxes were allocated to tourism.

$$(0.19) (981.5) = \$186.5$$

B. The Federal tax revenues associated with tourism were derived

from the following taxes: **

- (1) Personal income tax
- (2) Corporate profit tax
- (3) Retail sales tax

(a) Personal Income Tax

The Federal Government collected over \$25.7 billion in personal income taxes in 1982. This established an effective personal income tax for personal incomes of 7.4079 percent. This ratio was used to multiply the personal income associated with tourism expenditures in Ontario ($0.8957704 \times \$7,921 = \$7,095.39$).

Federal Personal Income Tax = $(.074079) (7095.39) = \$525.62$

(b) Corporate Profit Taxes

The effective Federal Corporate profit tax rate in 1982 was 24.63 percent. The ratio of corporate profits in Ontario to GPP was 0.0589124.

Corporate profits ascribed to tourism expenditures in Ontario =
 $(.0589124) (7,921) = \$466.6451$ million

Federal Corporate Profit Taxes = $(466.6451) (.2463) = \$114.93$ million

(c) Retail Sales Tax

The effective federal sales tax rate in 1982 was 5.9 percent. This is calculated as:

** General economic data were obtained from the Canadian Statistical Review, whereas revenue data were obtained from Statistics Canada, Federal Government Finance, Catalogue #68-211.

$$\frac{\text{Retail Sales Taxes}}{\text{Retail Sales}} = \frac{5.429}{92.293} = 0.058823$$

The ratio of retail sales to income in Ontario was 26.8 percent in 1982. This ratio was used to convert income ascribed to tourism into retail sales.

Thus,

$$\text{Federal Retail Taxes} = (.2681269) (7,921) (.058823) = \$124.93 \text{ million}$$

The total Federal tax revenues associated with tourism expenditures in Ontario in 1982 are therefore the sum of:

Federal Personal Income Taxes	=	525.62
Federal Corporate Profit Tax	=	114.93
Federal Retail Sales Tax	=	<u>124.93</u>
Total	=	765.48

APPENDIX VII

THE DATA

THE DATA

I. Kjr - Elements of the Regional Supplies Matrix

- a. agriculture: 1981 Census of Agriculture
Statistics Canada 69-907
Table 14: Farms classified by sales, by
agricultural region and census
division
- b. mining: Ministry of Natural Resources -- Ontario
Volume and Value of Ontario Mineral Commodity
Production in 1980
- c. manufacturing: 1980 Manufacturing Industries of Canada:
Sub-provincial Areas
Statistics Canada 31-209
Table 2: Principal Statistics of Census
Division of Manufacturing Statistical
Areas by major group and industry
 - i. -value of shipments of own manufacturing were taken at
the two digit industry code
 - if a county or regional municipality did not appear in
Table 2 then Table 6 was used to obtain the counties,
townships, etc. in the municipality and Table 5 was
used to obtain the values at the two digit industry
code
 - Table 5: Principal Statistics of Specified Municipalities
of Goods of own manufacture of \$30,000,000 or
more by province and major group
 - Table 6: Principal Statistics of Census Divisions and
Component Municipalities, by province
 - for those Townships, etc. with less than \$30,000,000 the
total value given in Table 6 was entered in "Other Major
Manufacturing"
 - for example, Elgin County in Region 1
 - Elgin County consists of Malahide, Yarmouth, St. Thomas
and other municipalities but St. Thomas was the only one
that had values at the two digit industry code
 - These two digit values were used and the total value for
the other three were added to "Other" for St. Thomas and
the total was used for Elgin County

ii. Cochrane and Algoma

-each are in different regions but one value was given as a total for the two

-in order to split the total between the two regions we used total employment income

-income and employment figures came from:

1981 Census of Canada, Statistics Canada 93-942
Ontario

total employment income = (males 15 and older with employment income) (average employment income) + (female 15 and older with employment income) (average employment income)

$$\alpha_1 = \frac{(\text{total employment income})_r}{\sum_{r=1}^2 (\text{total employment income})_r}$$

$$\alpha_2 = 1 - \alpha_1$$

value of own shipment of mfg in Algoma = $\alpha_1 \cdot$ (value of own shipment of mfg total for Algoma and Cochrane)

iii. Parry Sound District and Sudbury District

-split between two regions on the basis of population

1981 Census of Canada, Ontario
Statistics Canada 93-918

Table 2: Population by Specified Age Groups and Sex for Census Divisions and Subdivisions

-took the population of the subdivisions for each district, then located each subdivision on the map to determine which region it lies in

-once all the subdivisions were allocated to a region percentage of total population in the district was used to allocate the value of own shipments of manufacturing

II. Input - Output Coefficients

-from 1974 Ontario Input - Output Matrices (1974 Producer Prices)

value added coefficients

-wages and salaries, supplementary labour income, net income
uninc. business, other operation surplus → Input Matrix

wage value added coefficients

-wages and salaries, supplementary labour income → Input Matrix

exports and imports

-1974 Interprovincial Trade Estimates
-producer's prices

consumption coefficients

-1974 Ontario Final Demand Matrix

all matrices were aggregated to 28 X 28

19 provincial sectors
9 local

marginal propensity to consume

-Ontario Statistics Series 1977 p. 371
consumption on p.372

III. Average Annual Wage

average annual wage = average weekly wage X 49

-from Employment, earnings and hours, December 1982
Statistics Canada 72 - 002 Monthly

-sector 28 uses the industrial composite

for agriculture - Ontario Statistics Series 1982

$\frac{CPI_{82}}{CPI_{73}}$ X annual wage in agriculture in 1973

-provincial and total expenditure

Industry Sectors

1. Agriculture
2. Mining
- Manufacturing
3. Food and Beverage Industries
4. Rubber and Plastic Products Industries
5. Leather Industries
6. Yarns, Fabrics, Hosiery and Knitted, Clothing Industries
7. Wood Industries
8. Furniture and Fixtures Industries
9. Paper and Allied Industries
10. Printing, Publishing and Allied Industries
11. Primary Metal Industries
12. Metal Fabricating Industries
13. Machinery Industries
14. Transportation Equipment Industries
15. Electrical Products Industries
16. Non-metallic Mineral Products Industries
17. Chemical and Chemical Products Industries
18. Miscellaneous Manufacturing Industries
19. Other Major Manufacturing Industries
20. Construction
21. Transportation and Trade
22. Communications and Services
23. Utilities
24. Wholesale Trade Margins
25. Retail Trade Margins
26. Amusement and Recreation Services
27. Accommodations and Food Services
28. Other Sectors

Aggregation of the Input and Output Matrix

Input Matrix Column Aggregation: Industries

1. Agriculture: agriculture
forestry
fishing, hunting and trapping
2. Mining: metal mines
mineral fuels
non-metal mines
services incidental to mining
3. Food and Beverage Industries
4. Rubber and Plastic Industries
5. Leather Industries
6. Yarns, Fabrics, Hosiery and Knitted, Clothing: textile industry
knitting mills
clothing industry
7. Wood Industries
8. Furniture and Fixtures Industries
9. Paper and Allied Industries
10. Printing, Publishing, Advertising
11. Primary Metal Industries
12. Metal Fabricating Industries
13. Machinery Industries
14. Transportation and Storage Industries
15. Electrical Products Industries
16. Non-metallic Mineral Products Industries
17. Chemical and Chemical Products Industries
18. Miscellaneous Manufacturing Industries
19. Other Major Manufacturing Industries: tobacco products industries
petroleum and coal products
industries
20. Construction
21. Transportation and Trade: transportation and storage
transportation margins

- 22. Communications and Services: communications
owner occupied dwellings
finance, ins., and real est.
education and health services
services to business management
personal and misc. services
- 23. Electrical Power and Gas
- 24. Wholesale Trade Margins
- 25. Retail Trade Margins
- 26. Amusement and Recreation Services
- 27. Accommodation and Food Services
- 28. Other Sectors: operating office, lab, and food
travel, promotion and advertising

Input Matrix Row Aggregation: Commodities

1. Agriculture: grains
live animals
other agricultural products
forestry products
fish, hunting and trapping
2. Mining: iron ores and concentrates
other metal ores and concentrates
coal
crude mineral oils
natural gas
non-metallic minerals
services incidental to mining
3. Food and Beverages: meat products
dairy products
fish products
fruits and veg, cer, sug, misc. food products
feeds
soft drink and alcoholic beverages
4. Rubber and Plastic: tires, tubes and other rubber products
plastic fabricated products
5. Leather and Leather Products
6. Yarns, Fabrics, Hosiery and Knitted, Clothing Products
7. Lumber, Timber and other Wood Products
8. Furniture and Fixtures
9. Paper and Allied Products: pulp
newsprint and paper products
10. Printing, Publishing and Advertising Products
11. Primary Metal Products
12. Fabricated Metal Products
13. Agricultural and Industrial Machinery
14. Motor Vehicles, Parts and other transportation products
15. Electrical Products: appliances and receivers, household
other electrical products
16. Non-metallic Mineral Products: cement and concrete products
other non-metallic mineral products
17. Chemicals and Chemical Products: industrial chemicals
fertilizers
pharmaceuticals

18. Scientific and other Manufacturing Products
19. Other Manufacturing: cigarettes and tobacco
gasoline and fuel oil
other petro., coal and chemical products
20. Construction
21. Transportation and Trade: pipeline transportation
transportation and storage
transportation margins
22. Communications and Services: communications
imputed rent owner occupied dwellings
other finance, ins. and real estate
business services
education and health services
other personal and misc. services
23. Utilities: electrical power
other utilities

APPENDIX VIII

DEFINITIONS



DEFINITIONS

A. Expenditure Types

1. Transportation: Public Transportation and Automobiles

This is an aggregate of three categories that were lumped together to correspond to input-output sectors of the regional Ontario matrix. These are:

Automobile:

Expenditure on gas/oil/maintenance during trip or prior (when part of prepaid package), and also pertains to trucks, campers and other recreational vehicles such as boats, snowmobiles, etc. Included also are rental costs for autos or other motor vehicles.

Local Transportation:

Expenditure within the local area or any of the places stopped at during the trip, and pertains to taxis, public transit, etc.

Air/Bus/Train/Ship:

Expenditure on fares paid to Canadian carriers only, either during trip or prior (when part of prepaid package), for any destination.

2. Accommodation and Food

Again two categories were aggregated here to correspond to the sectors of the Ontario input-output table. The two categories are:

Accommodation:

Expenditure made in regards to commercial accommodation rooms/units, either during trip or prior (when part of prepaid package).

Food/Beverage:

Expenditure on food either during trip or prior (when part of prepaid package), and on beverages, and includes food and/or beverage portion of accommodation bills.

3. Amusement/Recreation

Expenditure made either during trip or prior (when part of prepaid package) on user fees, admissions and rental fees, and pertains to such items as recreational facilities, sporting events, amusement parks, attractions, night clubs, theatres, cultural activities, fish and game licences, rental of boats, snowmobiles, equipment, etc.

4. Retail Trade

Retail trade purchases during trip on such items as souvenirs, gifts, medical costs, clothing, personal services (i.e. laundry, barber, etc.), art, appliances, furnishings, etc.

B. Travellers and Expenditures

1. Ontario and Other Canadian Province Residents Travelling in Ontario

Included are expenditures by residents of Ontario and other Canadian provinces who travel, for any purpose, to destinations 25 and 50 miles or more (one-way), respectively, away from home. Commuting to work or school is excluded, along with travel operators and crew members of commercial and public transport, and one-way travel involving a change of residence.

Travel fares paid to Canadian public carriers are accrued to province or Ontario region of origin.

2. American and Other Country Residents Travelling in Ontario

Included are expenditures by residents of the United States and other foreign countries who visit Canada for a period of less than twelve months, and clear Canada Customs and Immigration. Included in the traveller totals are commuters, seasonal or temporary employment, and those in transit. Excluded are operators and crew members of commercial and public transport.

Travel fares paid to Canadian public carriers only are accrued to Ontario.

3. Ontario Residents Travelling in the United States and Other Countries

Included are expenditures in Ontario only by residents who travel outside of Canada, for any purpose, for a period of less than twelve months, and are cleared through Canada Customs and Immigration. Included in the traveller totals are commuters, seasonal or temporary employment, and those in transit. Excluded are operators and crew members of commercial and public transport.

Travel fares paid to foreign public carriers only are accrued to non-Canadian destinations, whereas travel fares paid to Canadian public carriers are accrued to Ontario region of origin. Any other prepaid expenditures were allocated to non-

Ontario destinations.

4. Data Sources for Tourism Expenditures in Ontario

By Residents of:

- | | |
|--------------------------------------|--|
| Ontario | - (1982) - Ontario Ministry of Tourism
and Recreation, <u>Ontario Travel
Survey</u> |
| Other Provinces | - Tourism Canada, <u>Canadian Travel Survey</u> |
| United States and
Other Countries | - Statistics Canada, Catalogue 66-001,
66-201, and special tabulations |

For details in regards to the methodology employed, please contact Tourism Research Section, Ontario Ministry of Tourism and Recreation.